REMARKS

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Claims 1 and 4-16 were pending in this application when examined.

Claim 1 has been amended to recite that the composition comprises a hydraulic material and a soil. Claim 1 has also been amended to recite "wherein the soil comprises a gravel component and/or a crushed inorganic waste, and the gravel component and the crushed inorganic waste have a particle size of 2 to 5 mm". Support for this amendment can be found in paragraphs [0021] and [0027] of the specification.

Claim 7 has been amended to recite that the composition further comprises a termiticide, from claim 1.

Claims 1 and 4-16 have been amended to make minor editorial changes, which are self-explanatory.

Support for new claims 17-19 can be found in paragraphs [0021], [0022] and [0031] of the specification.

I. The Presently Claimed Invention

Amended claim 1 recites, "A hardenable termite-controlling composition which comprises a hydraulic material and a soil, and is in the form of a dust-granule mixture, **wherein the soil comprises a gravel component and/or a crushed inorganic waste, and the gravel component and the crushed inorganic waste have a particle size of 2 to 5 mm**."

According to the present invention, because the gravel component and/or the crushed inorganic waste have a particle size of 2 to 5 mm, the presence of the gravel component and/or **the crushed inorganic waste in the soil can effectively prevent invading or tunneling of termites**. Even if termites gnaw the fine grain component, the gravel component and/or the crushed inorganic waste having the specific particle size (2 to 5 mm) forms a complicated porous or tunnel structure, and termites cannot easily pass through the structure.

The references do not teach or suggest that "**the soil comprises a gravel component and/or a crushed inorganic waste, and the gravel component and the crushed inorganic waste have a particle size of 2 to 5 mm**", as recited in amended claim 1.

II. Claim Rejections Under 35 U.S.C. § 102

A. Okada

The Examiner rejects claims 1, 4, 5, 7-11 and 13-16 under 35 U.S.C. § 102(b) as being anticipated by Okada (JP 07-291699). As applied to the amended claims, Applicants respectfully traverse the rejection.

Amended claim 1 recites, "A hardenable termite-controlling composition which comprises a hydraulic material and a soil, and is in the form of a dust-granule mixture, **wherein the soil comprises a gravel component and/or a crushed inorganic waste, and the gravel component and the crushed inorganic waste have a particle size of 2 to 5 mm**."

Okada does not disclose or suggest a soil comprising "a gravel component and/or a crushed inorganic waste, and the gravel component and the crushed inorganic waste have **a particle size of 2 to 5 mm**", as recited in claim 1. Therefore, the reference does not teach each and every feature of claim 1, and thus claim 1 is not anticipated by the reference.

Applicants take the position that the purpose of Okada is to prevent the erosion of a house by termites by the action of a controlling agent which the concrete diffuses. The sustained-release action of the adsorbent can maintain a termite controlling effect for a long period of time (see Abstract, "Purpose").

Okada discloses a termite-controlling concrete comprising a concrete and at least one adsorbent selected from the group consisting of an activated carbon, a zeolite, an activated alumina and a silica gel, and to which a termite-controlling agent is adsorbed (see claim 1 of the reference).

Moreover, Applicants note that the reference teaches that, for preparing a concrete, water is added to **a gravel (砂利, Japanese appellation "jari")**, a sand and a cement, and then the components are mixed. Then, **an adsorbent to which a termite-controlling agent is adsorbed and supported is added to the mixture,** and the mixture is mixed uniformly before solidification. By such a process, the termite-controlling concrete of Okada is obtained (see paragraph [0025] of the reference).

Moreover, in Japanese concrete materials (or Japanese building industry), the gravel "砂利 jari" of Okada is clearly different from the gravel component "礫 reki" of the present invention. That is, the particle size of "jari" is generally not less than 10 mm, as is apparent from

the enclosed JIS A 5308 and partial English translation thereof (see page 14, Table 1 of the JIS reference).

Thus, the particle size of the gravel of Okada is much larger than that of the gravel component of the present invention (2 to 5 mm). Additionally, the concrete composition of Okada contains termiticide as the essential component, in addition to the gravel, and the reference does not teach or suggest the relationship between gravel and termite-control.

Accordingly, claim 1 is not anticipated by the reference.

Claims 4-19 depend directly or indirectly from claim 1, and thus also are not anticipated by the reference.

B. JP 4-51506

The Examiner rejects claims 1, 9-11 and 13-16 under 35 U.S.C. § 102(b) as being anticipated by JP 4-51506. As applied to the amended claims, Applicants respectfully traverse the rejection.

Amended claim 1 recites, "A hardenable termite-controlling composition which comprises a hydraulic material and a soil, and is in the form of a dust-granule mixture, **wherein the soil comprises a gravel component and/or a crushed inorganic waste, and the gravel component and the crushed inorganic waste have a particle size of 2 to 5 mm**."

JP 4-51506 discloses an underfloor damp-proof structure, which comprises an earth floor 6 continuously laid between a strip footing 1 and a bond stone 5 over an under floor ground 3, wherein the earth floor 6 comprises a lower layer 8 composed of a time-hardening hardenable material containing a termiticide, and an upper layer 9 composed of a time-hardening hardenable material containing a humidity-controlling agent (see Abstract, claim 1).

However, the reference does not disclose or suggest a soil comprising "a gravel component and/or a crushed inorganic waste, and the gravel component and the crushed inorganic waste have **a particle size of 2 to 5 mm**", as recited in claim 1. Therefore, the reference does not teach each and every feature of claim 1, and thus claim 1 is not anticipated by the reference.

Moreover, Applicants take the position that the reference teaches that the earth floor 6 (a concrete slab on a grade) comprises a time-hardening hardenable material, such as a cement or a mortar concrete, continuously laid between the strip footing 1 and the bond stone 5 over the

under floor ground 3 (page 4, lines 2-5). Further, Applicants take the position that the reference discloses that first **the termiticide is mixed in a powder paste composed of a cement and a gravel (砂利, Japanese appellation "jari")** beforehand, and then the mixed powder material 10 is scattered on the under floor ground 3 so that the material can form a predetermined layer.

As discussed above, in Japanese concrete materials (or Japanese building industry), the gravel "砂利 jari" of the reference is clearly different from the gravel component "礫 reki" of the present invention. That is, the particle size of "jari" is generally not less than 10 mm, as is apparent from the enclosed JIS A 5308.

Further, the reference teaches that the mixed powder material 10 is sprinkled with water 11 for hardening to form a lower layer 8. After the hardening of the lower layer 8 proceeds to a certain degree, a mixed powder material 12 which contains a humidity-controlling agent and a powder paste composed of a cement and a gravel is scattered on the lower layer 8, as shown in Fig. 3. Then, the mixed powder material 12 is sprinkled with water 13 for hardening to form an upper layer 9 (page 4, line 13 to page 5, line 4).

The reference describes that the underfloor damp-proof structure is extremely effective for both humidity-controlling and termite-controlling of the underfloor, which can be obtained without generating gaps between the strip footing 1 or the bond stone 5 and the earth floor 6 (see [Effects of the Device]).

Accordingly, claim 1 is not anticipated by the reference.

Claims 4-19 depend directly or indirectly from claim 1, and thus also are not anticipated by the reference.

C. <u>Allen 1961</u>

The Examiner rejects claims 1, 9 and 13-16 under 35 U.S.C. § 102(b) as being anticipated by Allen et al. (1961) ("Allen 1961"). As applied to the amended claims, Applicants respectfully traverse the rejection.

Amended claim 1 recites, "A hardenable termite-controlling composition which comprises a hydraulic material and a soil, and is in the form of a dust-granule mixture, **wherein the soil comprises a gravel component and/or a crushed inorganic waste, and the gravel component and the crushed inorganic waste have a particle size of 2 to 5 mm**."

Allen 1961 does not disclose or suggest a soil comprising "**a gravel component** and/or **a crushed inorganic waste**, and the gravel component and the crushed inorganic waste have **a particle size of 2 to 5 mm**", as recited in claim 1. Therefore, the reference does not teach each and every feature of claim 1, and thus claim 1 is not anticipated by the reference.

Applicants further note that Allen 1961 discloses that insecticidal treatment of internal voids and cracks in concrete foundations is a standard method of preventing or controlling termite infestations. If such concrete is fabricated with a toxic agent that would cause mortality of termites through contact action, the problem of preventing termite movement over the concrete or through crevices in foundations might be eliminated or reduced (see second paragraph).

Further, the reference discloses that late in the summer of 1960, dieldrin, an insecticide highly toxic to termites, was incorporated into cement mixtures, and that this insecticide was very stable even under highly alkaline conditions (see third paragraph).

The reference further discloses that concrete blocks, approximately 3x5x5 inches in size, containing this insecticide were poured for evaluating contact toxicity to exposed termites. A wettable powder containing 75% dieldrin was added to the water used in the preparation of the concrete. Concentration of dieldrin in the cement mixtures was approximately 0.1% and 1.6% in the cement (w/w). Concrete blocks containing the insecticide were similar to the check blocks except for a darker gray color. One week after fabrication the block surfaces containing 0.1% dieldrin caused 100% mortality to R. flavipes workers exposed for a period of only 1 minute (see fourth paragraph).

However, the reference does not teach or suggest a soil comprising "**a gravel component** and/or **a crushed inorganic waste**, and the gravel component and the crushed inorganic waste have **a particle size of 2 to 5 mm**", as recited in claim 1.

Accordingly, claim 1 is not anticipated by the reference.

Claims 4-19 depend directly or indirectly from claim 1, and thus also are not anticipated by the reference.

D. Allen 1964

The Examiner rejects claims 1, 9 and 13-16 under 35 U.S.C. § 102(b) as being anticipated by Allen et al. (1964) ("Allen 1964"). As applied to the amended claims, Applicants respectfully traverse the rejection.

Amended claim 1 recites, "A hardenable termite-controlling composition which comprises a hydraulic material and a soil, and is in the form of a dust-granule mixture, **wherein the soil comprises a gravel component and/or a crushed inorganic waste, and the gravel component and the crushed inorganic waste have a particle size of 2 to 5 mm**."

Allen 1964 does not disclose or suggest a soil comprising "**a gravel component** and/or **a crushed inorganic waste**, and the gravel component and the crushed inorganic waste have **a particle size of 2 to 5 mm**", as recited in claim 1. Therefore, the reference does not teach each and every feature of claim 1.

Moreover, Applicatns note that Allen 1964 discloses a mixture of dieldrin-water and cement to produce a concrete with a surface that is toxic to termites. The reference discloses that the surface toxicity of the mixtures was reduced during certain storage conditions (26.7°C and 97%RH in the laboratory). The reference states that continuing studies to determine the durability of the toxic residue in concrete under laboratory and field conditions are in progress, and current results of these studies and experiments to evaluate the relative susceptibility of several species of termites to dieldrin-concrete mixtures are described (see page 26, col. 1, 1st paragraph).

Further, the reference discloses that the tests show the results obtained from 4 sets (I, II, III, IV) of dieldrin-concrete blocks prepared with dieldrin, 75% wettable powder in water, and ready-mix cement. Each set consisted of 3 blocks, each approximately 3x5x5 in., one with no dieldrin as a check, the second with 0.1% dieldrin (w/w), and the third, 1.6% (w/w) basis. The concentration of dieldrin in the 0.1% mixture was approximately twice the concentration recommended for treating trenches around building foundations. The high concentrations of dieldrin were selected for persistence in the alkaline condition, pH 12.5, of the freshly mixed concrete. The descriptions of additional sets of mixtures are given in the appropriate sections of this paper (see page 26, col. 1, 2nd paragraph).

However, the reference does not teach or suggest a soil comprising "**a gravel component** and/or **a crushed inorganic waste**, and the gravel component and the crushed inorganic waste have **a particle size of 2 to 5 mm**", as recited in claim 1.

Accordingly, claim 1 is not anticipated by the reference.

Claims 4-19 depend directly or indirectly from claim 1, and thus also are not anticipated by the reference.

III. Claim Rejections Under 35 U.S.C. § 103

The Examiner rejects claims 1 and 4-16 under 35 U.S.C. § 103(a) as being unpatentable over Okada in view of Copling (US 4,308,068). As applied to the amended claims, Applicants respectfully traverse the rejection.

The arguments above regarding Okada are also applicable to this rejection.

As discussed above, Okada does not teach or suggest "A hardenable termite-controlling composition which comprises a hydraulic material and a soil, and is in the form of a dust-granule mixture, **wherein the soil comprises a gravel component and/or a crushed inorganic waste, and the gravel component and the crushed inorganic waste have a particle size of 2 to 5 mm**", as recited in claim 1.

Copling does not remedy this deficiency. Accordingly, claim 1 would not have been obvious over Okada in view of Copling.

Moreover, Applicants take the position that Copling discloses a pre-concrete mix comprising 15 to 25 gallons sand; 10 to 20 gallons gravel; 5 to 15 gallons lime; 3 to 8 gallons cement (Portland or other suitable cement); and, 3 to 5 gallons of water having dissolved therein from about 1.2 to 1.8 oz. sodium silicate and from about 1.5 to 2.5 oz. of a nonionic surfactant (see claim 1 and col. 2, line 39).

Copling teaches that when sawdust or an equivalent thereof is added to the pre-concrete mix, suitable compositions contain: 40 to 60 gallons sawdust; 20 to 30 gallons cement; 5 to 15 gallons lime; 1.2 to 5 gallons clay; and, 8 to 12 gallons water having dissolved therein from 16 to 32 oz. sodium silicate and 4 to 6 oz. of a nonionic surfactant (see col. 2, lines 34-53).

Further, the reference discloses that sawdust-containing building blocks, weighing from about 20 to 30 pounds, depending on their size and the amount of **sawdust and clay substituted for the sand and gravel**, have good compressive strength, and good insulative and sound-

proofing properties. They are also termite resistant and can bend slightly without sweating like concrete (see col. 3, lines 11-18). **The reference teaches that sawdust and clay were substituted for sand and gravel. Therefore, Coping teaches away from the composition of claim 1 having "a gravel component and/or a crushed inorganic waste".**

Regarding the advantages of Copling, the reference discloses that an aqueous solution containing a mixture of sodium silicate and nonionic surfactant, preferably BASIC H, is added to a premix for the preparation of concrete, and the resulting mixture blended until a mixture of substantially uniform consistency is obtained (see col. 2, lines 19-24).

Accordingly, claim 1 would not have been obvious over Okada in view of Coping.

In addition, the present invention provides superior and **unexpected results** over the prior art. Because the gravel of Okada has a larger particle size than in claim 1 of the present invention, Okada's gravel cannot effectively prevent termite invasion and tunneling. Termites gnaw and chew the fine grain component, such as the sand component and the dirt component. Accordingly, when termites gnaw the fine grain component contained in the concrete of Okada, a simple porous or tunnel structure is formed due to the large particle size of the fine grain component. In other words, because the gravel has a large particle size, a large gap or empty space is formed in the structure after the termites gnaw or chew it. The termites easily pass through the structure in these large gaps. Incidentally, even if the structure of the concrete is extremely hard, such as in the case where cracks generates in the structure by deteriorating with time, the termites can easily pass through the cracks of the structure.

Accordingly, claim 1 would not have been obvious over Okada in view of Copling.

Claims 4-19 depend directly or indirectly from claim 1, and thus also would not have been obvious over the references.

B. <u>JP 4-51506 in view of Copling</u>

The Examiner rejects claims 1 and 4-16 under 35 U.S.C. § 103(a) as being unpatentable over JP 4-51506 in view of Copling. As applied to the amended claims, Applicants respectfully traverse the rejection.

The arguments above regarding JP 4-51506 and Copling are also applicable to this rejection.

The references do not teach or suggest "A hardenable termite-controlling composition which comprises a hydraulic material and a soil, and is in the form of a dust-granule mixture, **wherein the soil comprises a gravel component and/or a crushed inorganic waste, and the gravel component and the crushed inorganic waste have a particle size of 2 to 5 mm**", as recited in claim 1.

Accordingly, claim 1 would not have been obvious over JP 4-51506 in view of Coping.

Moreover, the present invention provides superior and **unexpected results** over the prior art. Because the gravel of JP 4-51506 has a larger particle size than in claim 1 of the present invention, the gravel of the reference cannot effectively prevent termite invasion and tunneling. Termites gnaw and chew the fine grain component, such as the sand component and the dirt component. Accordingly, when termites gnaw the fine grain component contained in the concrete of JP 4-51506, a simple porous or tunnel structure is formed due to the large particle size of the fine grain component. In other words, because the gravel has a large particle size, a large gap or empty space is formed in the structure after the termites gnaw or chew it. The termites easily pass through the structure in these large gaps. Incidentally, even if the structure of the concrete is extremely hard, such as in the case where cracks generates in the structure by deteriorating with time, the termites can easily pass through the cracks of the structure.

Accordingly, claim 1 would not have been obvious over JP 4-51506 in view of Copling.

Claims 4-19 depend directly or indirectly from claim 1, and thus also would not have been obvious over the references.

C. Allen 1961 and Allen 1964 in view of Copling

The Examiner rejects claims 1 and 4-16 under 35 U.S.C. § 103(a) as being unpatentable over Allen 1961 and Allen 1964 in view of Copling. As applied to the amended claims, Applicants respectfully traverse the rejection.

The arguments above regarding Allen 1961, Allen 1964 and Copling are also applicable to this rejection.

The references do not teach or suggest "A hardenable termite-controlling composition which comprises a hydraulic material and a soil, and is in the form of a dust-granule mixture, wherein the soil comprises a **gravel component and/or a crushed inorganic waste**, and the gravel component and the crushed inorganic waste **have a particle size of 2 to 5 mm**", as recited

in claim 1.

The effect of termite control by the specific particle size of the gravel component and the crushed inorganic waste, as recited in claim 1, would not have been obvious or predictable over Allen 1961, Allen 1964 and Copling.

Because the gravel component and/or the crushed inorganic waste have the particle size of 2 to 5 mm, soil comprising the gravel component and/or the crushed inorganic waste can effectively prevent invading or tunneling of termites. Even if termites gnaw the fine grain component, the gravel component and/or the crushed inorganic waste having the specific particle size forms the complicated porous or tunnel structure and thus termites cannot easily pass through the structure.

Accordingly, claim 1 would not have been obvious over Allen 1961 and Allen 1964 in view of Copling.

Claims 4-19 depend directly or indirectly from claim 1, and thus also would not have been obvious over the references.

III. Conclusion

For these reasons, Applicants take the position that the presently claimed invention is clearly patentable over the applied references.

Therefore, in view of the foregoing amendments and remarks, it is submitted that the rejections set forth by the Examiner have been overcome, and that the application is in condition for allowance. Such allowance is solicited.

Respectfully submitted,

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